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GRADE THREE MATHEMATICS: MODULE 7

DATA AND CHANCE

Home Instructor's Guide: Days 10-18
and
Assignment Booklet 7B



Learning
Technologies
Branch

Alberta
LEARNING

Grade Three Mathematics
 Module 7: Data and Chance
 Home Instructor's Guide: Days 10–18 and Assignment Booklet 7B
 Learning Technologies Branch
 ISBN 0-7741-2320-6

This document is intended for	
Students	✓
Teachers	✓
Administrators	
Home Instructors	✓
General Public	
Other	



You may find the following Internet sites useful:

- Alberta Learning, <http://www.learning.gov.ab.ca>
- Learning Technologies Branch, <http://www.learning.gov.ab.ca/lrb>
- Learning Resources Centre, <http://www.lrc.learning.gov.ab.ca>

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MODULE 7: DATA AND CHANCE

Day 10: The concepts taught to this point in the module are reviewed today.

Day 11: Games involving chance will introduce the student to “Chance and Uncertainty,” the second part of the “Statistics and Probability” strand of Grade Three Mathematics. The student will be using number cubes (found in the Appendix) or dice, playing cards with the picture cards removed, and coins to determine possible outcomes and test predictions.

Check that the student is correctly making tally marks for each activity.

Day 12: In today’s lessons, the student is introduced to the vocabulary of probability, which he or she uses in everyday language. The student will learn that more than one word can be used to explain or describe an event.

Day 13: The student will be making and using spinners to determine possible outcomes and test predictions. A spinner template is in the Appendix of the Student Module Booklet. Assist your student in making and assembling the spinners.

Day 14: The student continues to create and use spinners, make predictions, and test them. In some instances, the results will be different from what intuition or logic appears to dictate. The student may be quite surprised at the outcomes of some.

Day 15: The student continues to experiment with spinners and determining outcomes.

Multiplication number facts are also practised in this lesson. Take some time to compare the results on this exercise to some of the student’s earlier number facts pages. How much improvement do you see? Is your student completing the 25 facts in 2 minutes with reasonable accuracy? On the Alberta Provincial Achievement Test, students are expected to complete 25 multiplication questions in 2 minutes.

Do you need to spend extra time practising either addition, subtraction, or multiplication facts with your student? Discuss the strategies your student uses most often. Spend a few minutes each day working on either addition, subtraction, or multiplication facts the student is having difficulty with.

Day 16: The student continues to experiment with spinners and determining outcomes. Talk about the different kinds of spinners the student made over the last few days. Discuss the predictions and outcomes of the spins. Ask what the student found out about spinners and chance.

Day 17: The student learns that some outcomes can be predicted beforehand. Others must be determined by experimentation.

There are no activities in the Assignment Booklet today.

Day 18: The concepts that were introduced in this module are reviewed in the Assignment Booklet activities. Assist the student with the coin-toss activity in question 14 if necessary. Ensure the student properly records the data on the chart.

After the student has completed today's activities and assignments, direct him or her to the Student's Checklist and Student's Comments. The student may work on these alone or with your help. Complete the Home Instructor's Checklist for the teacher and add any comments that may be helpful.

Submit Assignment Booklet 7B now. If the student has done the work listed in the Extension Activities and wishes the teacher to see them, submit them as well.

ASSIGNMENT BOOKLET 7B

Grade Three Mathematics
Module 7: Days 10–18

Home Instructor's Comments and Questions

Home Instructor's Signature

FOR SCHOOL USE ONLY

Assigned Teacher:

Date Assignment Received:

Grading:

Additional Information:

FOR HOME INSTRUCTOR USE (if label is missing or incorrect)

Student File Number:

Date Submitted:

Apply Module Label Here

Name

Address

Postal Code

*Please verify that preprinted label is for
correct course and module.*

Teacher's Comments

Teacher's Signature

Home Instructor: Keep this sheet when it is returned to you as a record of the student's progress.

INSTRUCTIONS FOR SENDING IN THIS DISTANCE LEARNING ASSIGNMENT BOOKLET

When you register for distance learning courses, you are expected to send in Assignment Booklets for corrections regularly. Try to send each Assignment Booklet as soon as you have completed it. Before sending your Assignment Booklet, please check the following:

- Are all the assignments completed? If not, explain why.
- Has your work been reread to be sure the spelling and details are correct?
- Is the record form filled out and the correct module label attached?

MAILING

1. Postage Regulations

Do **not** enclose letters with Assignment Booklets.

Send all letters in a separate envelope.

2. Postage Rates

Take your Assignment Booklet to the post office and have it weighed. Attach enough postage and seal the envelope. Assignment Booklets will travel faster if correct postage is used and if they are in large envelopes that are no more than two centimetres thick.

FAXING

1. Assignment Booklets may be faxed. Contact your teacher for the fax number.
2. All faxing costs are the responsibility of the sender.

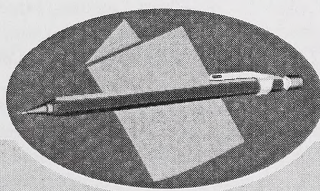
E-MAILING

Assignment Booklets may be e-mailed. Contact your teacher for the e-mail address.

Grade Three Mathematics

Module 7

Data and Chance **ASSIGNMENT BOOKLET 7B**



Grade Three Mathematics
Module 7: Data and Chance
Assignment Booklet 7B
Learning Technologies Branch

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Use the following information to answer questions 1 to 4.

Luke's mother was planning a party for Luke. She was wondering what type of food to prepare. She asked Luke to survey the friends who were coming to the party to see what they would like best.

This is Luke's tally chart. Fill in the totals and then select the best answer for each question.

Favourite Food

Food	Tally	Total
pizza	///	
chili	///	
hot dogs	//	
hamburgers	###	

1. How many of Luke's friends will be coming to the party?

- ☐ 5
- ☐ 10
- ☐ 13
- ☐ 8

2. Based on the data, what food should Luke's mom serve?

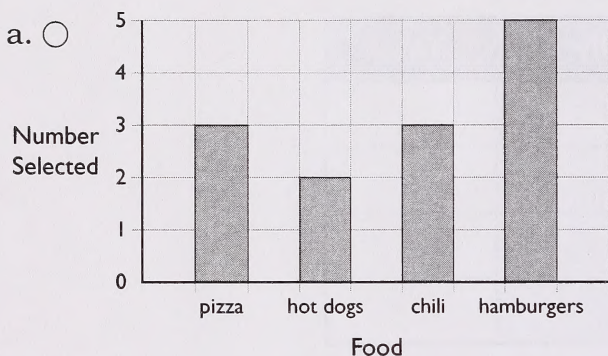
- ☐ pizza
- ☐ chili
- ☐ hot dogs
- ☐ hamburgers

3. How many of Luke's friends liked hamburgers better than hot dogs?

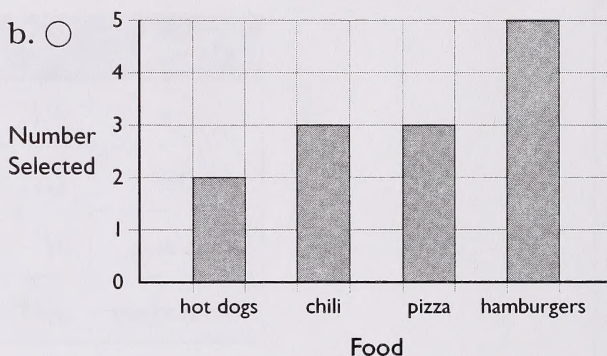
- ☐ 5
☐ 3
☐ 2
☐ 1

4. Look at the following graphs showing the data Luke collected. Which one shows the data in rank order from most-popular food to least-popular food? Fill in the circle beside a, b, c, or d that shows the correct graph.

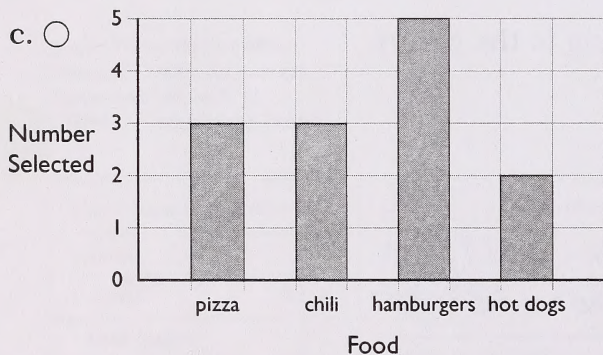
a. ☐



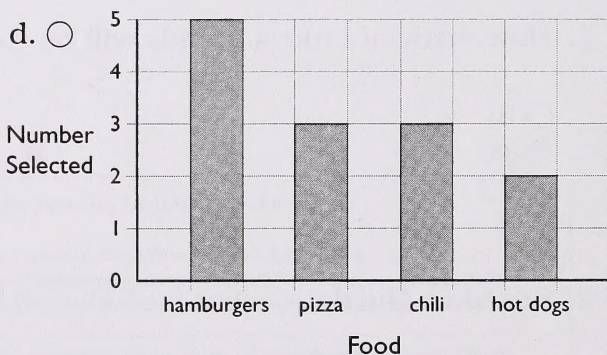
b. ☐



c. ☐



d. ☐



1. Journal Entry

Write what the word **chance** means to you.

2. Look at the picture of the girl flipping the coin.



Can you know whether the coin will land on heads or tails? Explain your answer.

1. Use the words below to fill the blanks.

certain, impossible, uncertain

- a. Monday will follow Sunday next week. _____
- b. It will be sunny tomorrow. _____
- c. The Sun will set tomorrow. _____
- d. Sarah, who has brown hair, will wake up with purple hair. _____

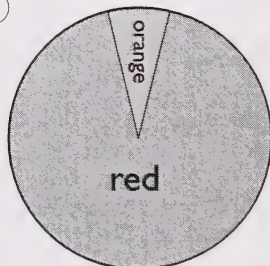
2. Think of events that are certain, impossible, likely, and unlikely to happen.

Write a sentence in the second column that goes with the word in the first column.

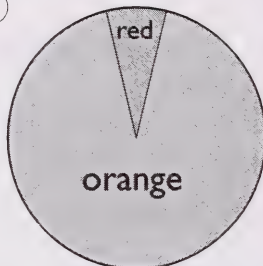
Certain	<hr/> <hr/> <hr/>
Unlikely	<hr/> <hr/> <hr/>
Likely	<hr/> <hr/> <hr/>
Impossible	<hr/> <hr/> <hr/>

1. Look at the spinners. Fill in the circle beside a, b, c, or d that shows the spinner where orange is likely to come up most of the time.

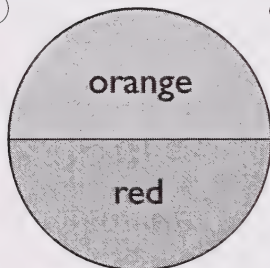
a. ☐



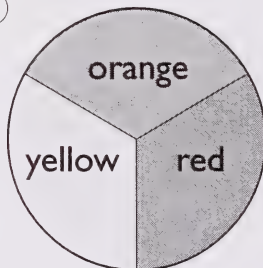
b. ☐



c. ☐

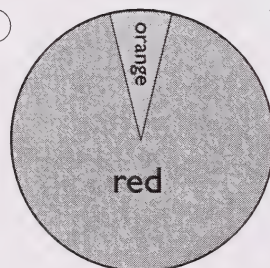


d. ☐

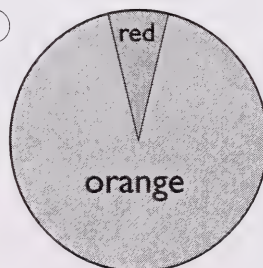


2. Fill in the circle beside a, b, c, or d that shows the spinner that is more likely to stop on red.

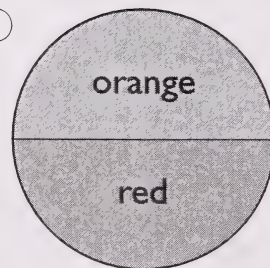
a. ☐



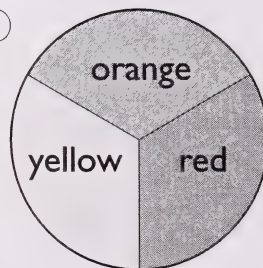
b. ☐



c. ☐



d. ☐



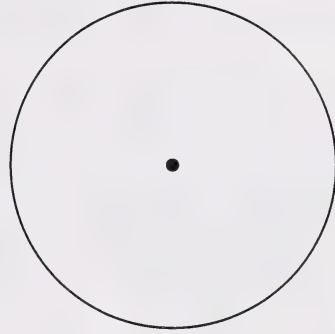
In each box, complete and colour a spinner to fit each description. Each spinner is to have two colours. Use your ruler to help you make the sections.

1.



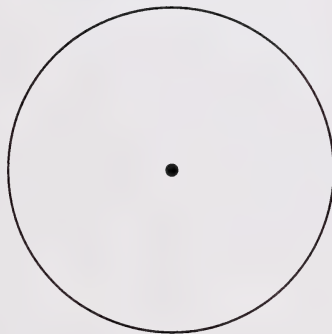
Red and blue are equally likely to come up.

2.



It is likely that yellow will come up most of the time. The spinner is yellow and red.

3.



Purple is a bit more likely to come up than green.

4.

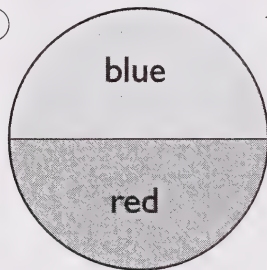


It is less likely that orange will turn up than blue.

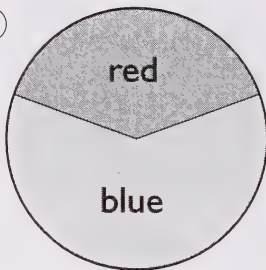
Look at these spinners. Read each description, and then fill in the circle beside a, b, c, or d that shows the spinner that best matches the description.

1. The result is more likely to be blue than red.

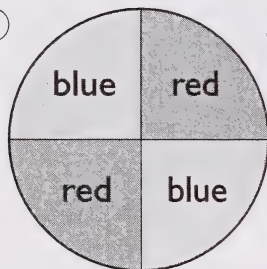
a. ☐



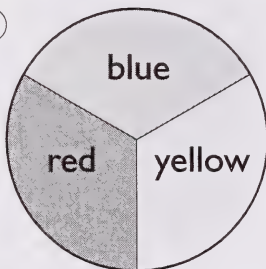
b. ☐



c. ☐

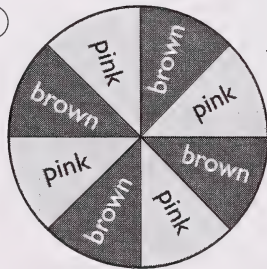


d. ☐

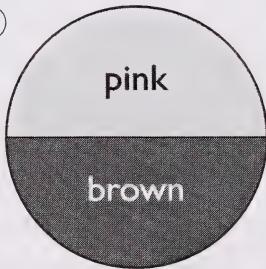


2. The result is a little more likely to be pink than brown.

a. ☐



b. ☐



c. ☐



d. ☐

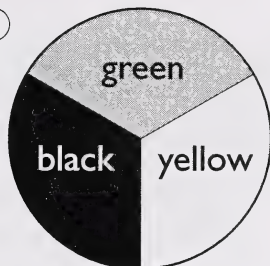


3. It is less likely that black will be the result.

a. ☐



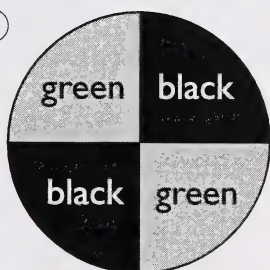
b. ☐



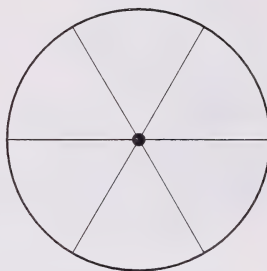
c. ☐



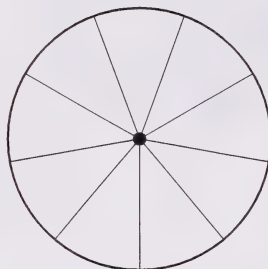
d. ☐



1. Use two colours to shade the sections of this spinner so that the result is equally likely for both colours.



2. Use three colours to shade the sections of this spinner so that the result is equally likely for all colours.



3. a. Make a three-colour spinner where one colour is more likely to result than the other two colours.



- b. Which colour do you think will be pointed to more often? _____

Michelle surveyed her friends to find out what their favourite pets were. This is her tally chart.

Pet	Tally	Total
bird	//	
cat	### ### I	
fish	////	
dog	### ///	

1. Complete the chart by filling in the totals for each pet.

2. How many children did Michelle survey?

- ☐ 26
- ☐ 25
- ☐ 22
- ☐ 19

3. How many children voted for the second-favourite pet?

- ☐ 4
- ☐ 6
- ☐ 8
- ☐ 11

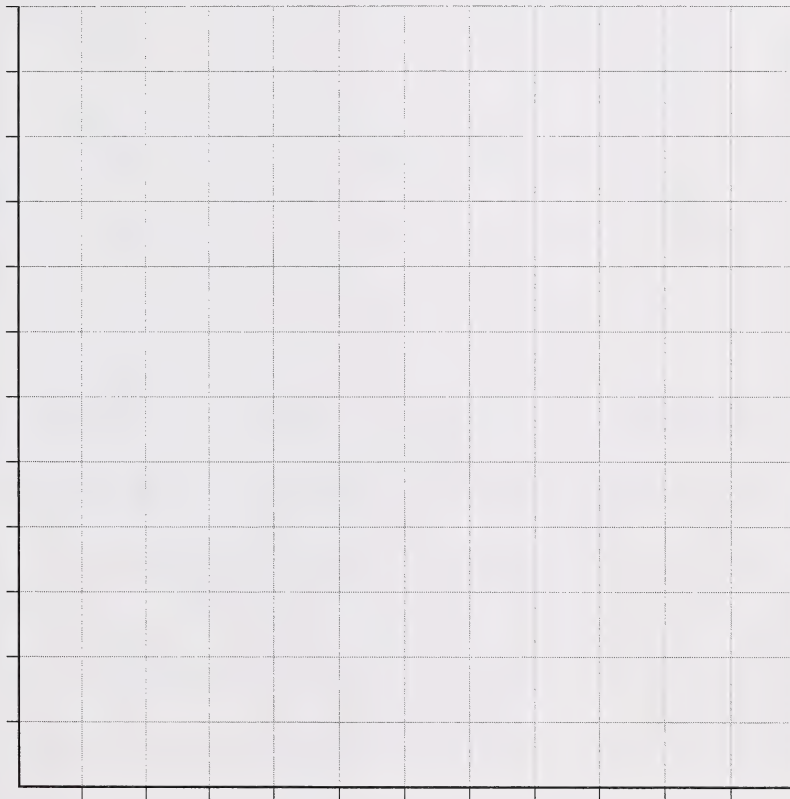
4. How many children did not vote for the second-favourite pet?

- ☐ 22
- ☐ 17
- ☐ 15
- ☐ 14

5. What are two questions you can ask about the data?

6. Make a pictograph to show Michelle's information. Give your graph a title and tell what your picture or symbol stands for.

7. Show the results of Michelle's survey on a bar graph. Be sure to label it and give it a title. You may make a vertical or horizontal graph (you will be making a graph in the other direction in question 9.)



8. List the pets in order from **most-favourite** to **least-favourite**.

- ☐ bird, fish, dog, cat
- ☐ cat, fish, dog, bird
- ☐ dog, cat, fish, bird
- ☐ cat, dog, fish, bird

9. Show the results of Michelle's survey of pets in order, from most favourite to least favourite, on a bar graph. Label your graph and give it a title. Make the bars in this graph go in the opposite direction (vertical or horizontal) to the graph you made in question 6.



Fill in the circle of the best possible outcome for each of the following events.

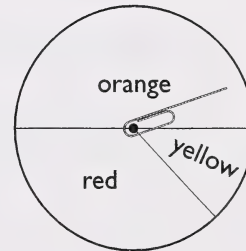
10. The coin toss will land heads.

- ☐ impossible
- ☐ certain
- ☐ equally likely
- ☐ less likely



11. The pointer on this spinner will land on pink.

- ☐ impossible
- ☐ certain
- ☐ likely
- ☐ less likely



12. You will eat today.

- ☐ impossible
- ☐ certain
- ☐ likely
- ☐ less likely

13. It will rain the entire month of July.

- ☐ impossible
- ☐ certain
- ☐ likely
- ☐ less likely

14. You're going to do a coin toss 15 times using two coins.

a. Predict how many times the coins will land on heads at the same time.

b. Predict how many times the coins will land on tails at the same time.

c. Predict how many times there will be no match. _____

d. Conduct an experiment to test your prediction. You will need two coins. Toss both coins together 15 times.

Keep a record of the tosses on the tally chart. Then find the totals.

Outcomes	Tally	Total
heads and heads		
tails and tails		
heads and tails		

e. Was your prediction correct? _____

f. What is your conclusion? _____

Go to your Student Module Booklet and look up the Number Facts exercises on Days 3, 6, 8, 12, and 15.

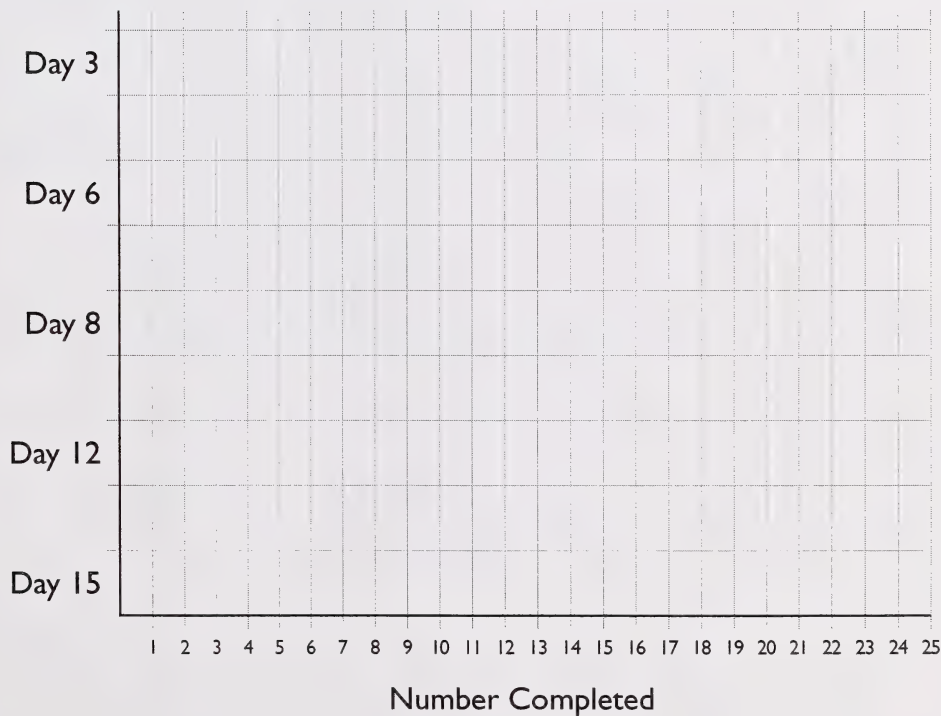
15. a. On the lines, write how many multiplication number facts you completed on each day.

Day 3 _____ Day 6 _____ Day 8 _____

Day 12 _____ Day 15 _____

- b. Display the “Number Completed” data on the graph.

Number Facts I Completed

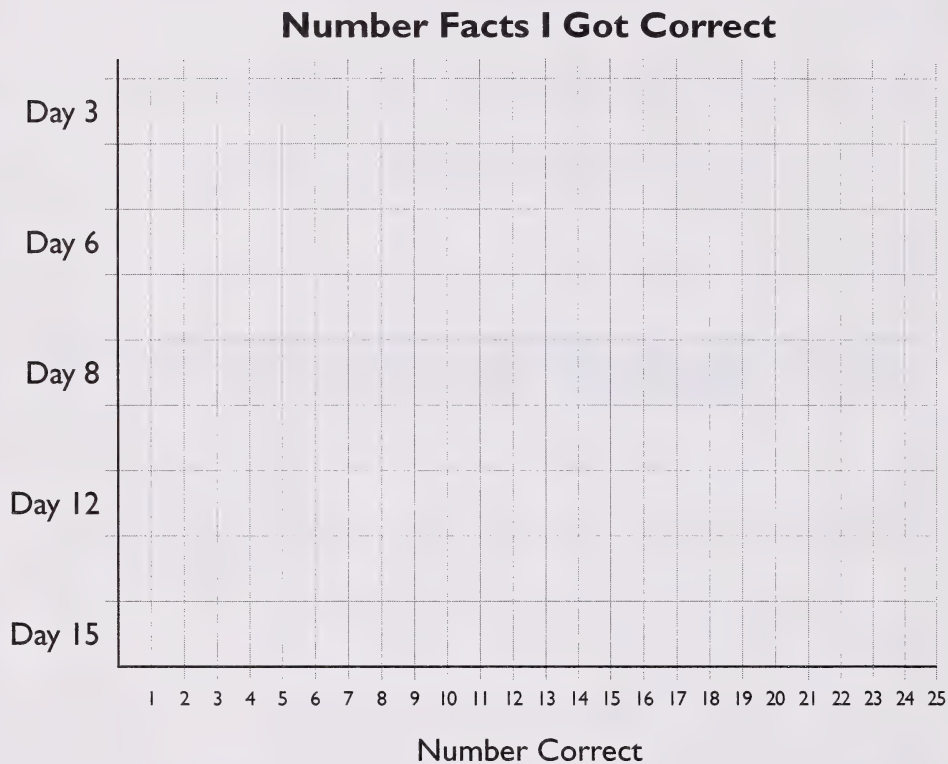


c. On the lines, write how many number facts you got right on each day.

Day 3 _____ Day 6 _____ Day 8 _____

Day 12 _____ Day 15 _____

d. Display the “Number Correct” data on this graph.



Answer the questions about the data in the two graphs.

16. What does the data from the two graphs tell you? _____

17. How many number facts did you complete in all over the five days? _____

18. How many number facts were correct in all? _____

19. How many more number facts did you complete than you got correct? _____

20. On which day(s) did you complete the most facts? _____

21. On which day(s) did you answer the least number correctly? _____

22. What conclusion can you make when you compare the data on the two graphs?

Timed exercise: 2 minutes

Ask your home instructor to time you for 2 minutes. Do as many questions as you can in two minutes. Write how many you completed.

$7 \times 7 = \underline{\hspace{2cm}}$

$3 \times 2 = \underline{\hspace{2cm}}$

$2 \times 8 = \underline{\hspace{2cm}}$

$5 \times 7 = \underline{\hspace{2cm}}$

$2 \times 2 = \underline{\hspace{2cm}}$

$3 \times 6 = \underline{\hspace{2cm}}$

$0 \times 9 = \underline{\hspace{2cm}}$

$5 \times 5 = \underline{\hspace{2cm}}$

$7 \times 5 = \underline{\hspace{2cm}}$

$4 \times 2 = \underline{\hspace{2cm}}$

$1 \times 7 = \underline{\hspace{2cm}}$

$6 \times 7 = \underline{\hspace{2cm}}$

$8 \times 0 = \underline{\hspace{2cm}}$

$5 \times 8 = \underline{\hspace{2cm}}$

$7 \times 4 = \underline{\hspace{2cm}}$

$$\begin{array}{r} 8 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 0 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ \times 5 \\ \hline \end{array}$$

Number completed	
Number correct	

STUDENT'S CHECKLIST
MODULE 7: DAYS 10 TO 18

I can ...	Put a check mark beside the things you can do.
describe the outcome of an event using the terms <i>likely, unlikely, less likely, more likely, impossible, certain, uncertain</i>	
conduct a chance experiment, record the results, and draw conclusions from it	

STUDENT'S COMMENTS

What I enjoyed the most in this part of the module was _____

Something new that I learned in this part of the module was _____

HOME INSTRUCTOR'S CHECKLIST

Check **yes** or **not yet** for each question.

The student can . . .

- describe the likelihood of an outcome, using such terms as *more likely*, *likely*, *less likely*, *unlikely*, *impossible*, *certain*, *uncertain* ☐ yes ☐ not yet
- conduct a probability experiment, choose an appropriate recording method, and draw conclusions from the results ☐ yes ☐ not yet

HOME INSTRUCTOR'S COMMENTS
